

## Plants

**1-2 The student will demonstrate an understanding of the special characteristics and needs of plants that allow them to survive in their own distinct environments. (Life Science)**

**1.2.5 Explain how distinct environments throughout the world support the life of different types of plants.**

**Taxonomy level:** 2.7-B Understand Conceptual Knowledge

**Previous/Future knowledge:** This is the first time that students have been introduced to distinct environments and the concept that they support different types of plants. It is a foundational concept that will be developed further in 3<sup>rd</sup> grade (3-2.3) when students recall the characteristics of an organism's habitat that allow the organism to survive there. In 4<sup>th</sup> grade (4-2.2), students will explain how the characteristics of distinct environments (including swamps, rivers and streams, tropical rain forests, deserts, and the polar regions) influence the variety of organisms in each.

**It is essential for students to** know that plants require air, water, nutrients, space, and light. A *distinct environment* is a special surrounding that supports the life of different plants. Plants can survive only in environments in which their needs can be met. The world has many different distinct environments that support varied types of plants.

- One example of a distinct environment is the desert. The desert has plants that often have a special water storage system. Other plants may have especially long roots that spread out to reach as much water as possible. Cacti (the plural form of cactus) are one of the best-known desert plants. Cacti are designed to store water from one rainfall to the next.
- Another example of a distinct environment that is nearby is the schoolyard. There are plants living in the shade, in a crack in the sidewalk or parking lot, where the soil is wet or the environment is always sunny.

**It is not essential for students to** study all distinct environments (biomes) but a study of more than one distinct environment is needed to completely cover the indicator.

### **Assessment Guidelines:**

The objective of this indicator is to *explain* how distinct environments throughout the world support the life of different types of plants; therefore, the primary focus of assessment should be to construct a cause-and-effect model of the various ways that the types of plants are affected by the distinct environments. However, appropriate assessments should also require students to *recall* that plants can only thrive where their needs can be met; *exemplify* environments and the conditions that support plants; *identify* a plant that would live in a distinct environment; or *summarize* the characteristics of an environment and the types of plants growing there.